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IMPORTANT INSECT OUTBREAKS IN OREGON AND WASHINGTON IN 1962

by

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SUMMARY

Epidemic insect outbreaks this year totaled 1,305,170 acres. The locations of this year's infestations are shown on the accompanying map. Infestation trends during the last 12 years are shown in the following tabulation:

Year	Infested acreage	Year	Infested acreage
1951	2,629,240	1957	2,129,440
1952	7,286,200	1958	2,032,720
1953	8,269,120	1959	1,448,360
1954	7,704,120	1960	1,272,960
1955	2,248,820	1961	1,223,230
1956	1,410,660	1962	1,305,170

Bark beetle outbreaks were responsible for this year's increase. Both defoliator and sucking insect damage decreased significantly.

Western hemlock looper outbreaks flared up in southwestern Washington. Tree mortality has already occurred in some areas. Control may be needed in 1963, pending the outcome of the biological evaluation this fall. Outbreaks of other defoliators occurred, but none require control next year.

The European pine shoot moth was discovered in one new location in Washington. All known infestations in Spokane, Washington and Salem, Oregon were eradicated in 1961. Infestations in Portland, Oregon were eradicated in 1961 and 1962.

Western pine beetle infestations increased on the Ochoco, Fremont, Malheur, and Deschutes National Forests in Oregon. Outbreaks decreased in Washington. Aggressive sanitation-salvage and salvage logging programs are needed for control of this beetle. The trend of other bark beetle outbreaks was variable by species, but was generally upward.

Chemical control of bark beetles was limited to a small maintenance control project against the mountain pine beetle in lodgepole pine in Crater Lake National Park.

Summary of 1962 forest insect epidemic infestations in Oregon and Washington

Insects 1/ 2/	Oregon		Washington		Regional total	
	Infestation centers	Area	Infestation centers	Area	Infestation centers	Area
	Number	Acres	Number	Acres	Number	Acres
Defoliators:						
Spruce budworm	14	48,370	0	0	14	48,370
Contarinia sp.	8	14,570	0	0	8	14,570
Larch casebearer	0	0	2	5,280	2	5,280
Lodgepole sawfly	2	4,800	0	0	2	4,800
Hemlock looper	0	0	14	4,470	14	4,470
Pine needle sheath miner (P)	3	4,000	0	0	3	4,000
Pine needle sheath miner (L)	0	0	1	1,440	1	1,440
Ponderosa pine sawfly	4	1,080	3	320	7	1,400
Oak looper	5	1,240	0	0	5	1,240
Unknown sawfly (larch)	3	170	0	0	3	170
Douglas-fir tussock moth	0	0	2	100	2	100
All defoliators	39	74,230	22	11,610	61	85,840
Sucking insects:						
Balsam woolly aphid	106	51,800	20	4,710	126	56,510
Pine needle scale	6	1,920	0	0	6	1,920
All sucking insects	112	53,720	20	4,710	132	58,430
Bark beetles:						
Mountain pine beetle (W)	224	73,720	419	349,770	643	423,490
Mountain pine beetle (L)	147	65,200	13	3,050	160	68,250
Mountain pine beetle (P)	20	3,820	15	1,345	35	5,165
Mountain pine beetle (S)	1	160	0	0	1	160
Western pine beetle	465	392,385	14	6,380	479	398,765
Douglas-fir beetle	144	26,540	240	55,990	384	82,530
Fir engraver	294	105,450	58	22,820	352	128,270
Oregon pine ips	311	43,610	55	1,970	366	45,580
Engelmann spruce beetle	10	1,230	26	6,280	36	7,510
Douglas-fir engraver	1	160	6	540	7	700
Silver fir beetle	1	480	0	0	1	480
All bark beetles	1,618	712,755	846	448,145	2,464	1,160,900
All insects	1,769	840,705	888	464,465	2,657	1,305,170

1/ Mountain pine beetle infestations are separated by tree species: L, lodgepole pine; P, ponderosa pine; S, sugar pine; W, western white pine.

2/ Pine needle sheath miner infestations are separated by tree species: P, ponderosa pine; L, lodgepole pine.

DEFOLIATORS

SPRUCE BUDWORM (Choristoneura fumiferana (Clem.))

Hosts this year: Douglas-fir, grand fir, subalpine fir, and white fir.

Current conditions: In Oregon, outbreaks on the Fremont National Forest decreased in size and intensity. Epidemic infestations on the Wallowa-Whitman National Forest reappeared after a year's absence. Recorded epidemic infestations during 1961 and 1962 are as follows:

Administrative area	1961		1962	
	Area	Percent	Area	Percent
	Acres		Acres	
Oregon:				
Fremont National Forest	55,200	65	42,060	87
Wallowa-Whitman N.F.	0	0	6,310	13
Oregon areas	55,200	65	48,370	100
Washington:				
Glenwood District	22,400	26	0	0
Yakima Indian Reservation	7,200	9	0	0
Washington Areas	29,600	35	0	0
All areas	84,800	100	48,370	100

Trend: The 1962 egg mass evaluation survey indicated a variable trend on Fremont National Forest and an upward trend on the Wallowa-Whitman National Forest.

Control: Some top-killing has already occurred on parts of the Fremont National Forest. Because of the variable trend, control is unnecessary in 1963. Control will probably not be needed on the Wallowa-Whitman National Forest infestation in 1963.

WESTERN HEMLOCK LOOPER (Lambdina fiscellaria lugubrosa (Hulst))

Host this year: Western hemlock.

Current conditions: In Washington, critical defoliation occurred in the vicinity of Naselle and on Long Island. Some timber has already been killed and more valuable timber is threatened. The extent of infestation in Oregon has not yet been determined.

Trend: Presumably upward in Washington. Unknown in Oregon.

Control: The need for control in 1963 will be determined when the egg survey has been completed.

PONDEROSA PINE NEEDLE MINER (Recurvaria sp.)

Host this year: Ponderosa pine.

Current conditions: The infestation on the Fremont National Forest, present for the last four years, subsided.

Trend: Probably downward.

Control: None developed. Life history studies are continuing so that control measures can be developed, if necessary. Control is not needed in 1963.

WESTERN OAK LOOPER (Lambdina fiscellaria somniaria (Hulst))

Host this year: Oregon white oak.

Current conditions: Outbreaks near Dallas and Monmouth, Oregon subsided. New infestations developed in Oregon white oak near Wren and Salt Creek, Oregon and in other widely separated locations in the Willamette Valley. Outbreaks of this defoliator generally subside quickly without causing lasting stand damage.

Trend: Downward.

Control: None needed in 1963.

LARCH LOOPER (Semiothisa sexmaculata (Pack.))

Host this year: Western larch.

Current conditions: Outbreaks in northeastern Washington, near Northport, declined.

Trend: Undetermined.

Control: None needed in 1963. Western larch can evidently stand several seasons of defoliation before the damage becomes critical.

PINE NEEDLE FASCICLE MINER (Zelleria haimbachi Busck)

Hosts this year: Ponderosa pine and lodgepole pine.

Current conditions: New epidemic infestations developed in young ponderosa pine stands near Ashland, Oregon. Light defoliation continued in the older center of damage in lodgepole pine stands near Olympia, Washington; other subepidemic damage reported from many areas in both States.

Trend: Undetermined. Larval and pupal parasites abundant.

Control: None needed in 1963.

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana (Schiff.))

Hosts this year: Mugho and Scotch pines are the preferred hosts. Fifteen species and varieties of pines in ornamental plantings have been attacked in the past.

Current conditions: About 176 communities in Washington and 100 in Oregon were surveyed. One new infestation was found in Aberdeen, Washington. This was due to movement of infested nursery stock in violation of quarantines. In addition, spot checks were made in native lodgepole pine stands in the Puget Sound area from Blaine to Shelton, Washington and along the Oregon Coast near Newport. Survey findings were negative in the native pine stands.

Eradication surveys in Spokane, Washington and Salem, Oregon in 1961 were apparently successful since no new infestations were found this year. In Portland, Oregon 18 infested trees were found and destroyed in 1962.

Quarantines regulating the movement of infested pines have been adopted by the States of Washington, Oregon, Idaho, Montana, Utah, California, and Nevada. The Federal Government has adopted similar quarantines regulating the importation of pines.

Trend: Continued spread of the infestation may occur. If so, it will be principally through the movement of infested nursery stock.

Control: Practical fumigation schedules using methyl bromide have been developed. Procedures are available for fumigating ornamental pines and liner stock in place, for container stock, and for bundled nursery stock. These, together with strict enforcement of existing quarantines, will do much to slow the spread of the moth in the Northwest.

Eradication programs should be continued in Spokane, Washington and in Portland and Salem, Oregon again in 1963. These surveys should be continued three years following eradication of the last known infestation.

DOUGLAS-FIR TUSSOCK MOTH (Hemerocampa pseudotsugata McD.)

Host this year: Douglas-fir.

Current conditions: Two small epidemic outbreaks occurred near Spokane, Washington. While neither infestation is serious at present, they do pose a threat to surrounding stands because the young larvae are buoyant and can be carried great distances by wind.

Trend: Undetermined.

Control: None needed in 1963.

DOUGLAS-FIR NEEDLE GALL MIDGE (Contarinia sp.)

Host this year: Douglas-fir

Current conditions: Light to severe defoliation of Douglas-fir occurred on portions of the Wallowa-Whitman and Malheur National Forests. In these areas, Christmas tree values have been seriously affected.

Trend: Unknown.

Control: No control has been developed.

LARCH CASEBEARER (Coleophora laricella (Hübner))

Host this year: Western larch.

Current conditions: Infestations flared up once again, causing light to moderate defoliations, in northeastern Washington on Mica Peak near Spokane. Elsewhere in the general area subepidemic numbers of the insect were found from the Idaho line west to Deer Park and Colville, Washington.

Trend: Apparently upward.

Control: None needed in 1963. Western larch can tolerate several season's defoliation without any appreciable damage.

SAWFLIES (Neodiprion spp.)

Hosts this year: Lodgepole pine, ponderosa pine, knobcone pine, and western larch.

Current conditions: Light to severe defoliation of lodgepole pine, ponderosa pine, and knobcone pine occurred on the Umpqua National Forest. Parasitism and disease caused a considerable reduction in the population. Ponderosa pine was lightly defoliated on the Umatilla National Forest. Two small areas of western larch on the Wallowa-Whitman National Forest were also defoliated by an unknown species of sawfly.

Trend: Variable. Probably down on the Umpqua National Forest and static to down on the other Forests.

Control: None needed in 1963.

SUCKING INSECTS

BALSAM WOOLLY APHID (Chermes piceae (Ratz.))

Hosts this year: Pacific silver fir, subalpine fir, and grand fir.

Current conditions: The acreage of infestation decreased in Oregon but increased slightly in Washington. The majority of the outbreaks in subalpine fir were centered on the Willamette National Forest in Oregon. The most extensive losses in Pacific silver fir stands occurred on the Gifford Pinchot National Forest in Washington and on the Siuslaw National Forest in Oregon.

Trend: The trend in Pacific silver fir stands is variable, increasing on some areas and decreasing on others. In subalpine fir the trend is slightly upward.

Control: Direct control is impractical. Importation and colonization of foreign predators continued with some success.

PINE NEEDLE SCALE (Phenacaspis pinifoliae (Fitch))

Host this year: Ponderosa pine.

Current conditions: Again this year this insect caused considerable damage to ponderosa pine stands near The Dalles and in the lower Hood River Valley, Oregon. Lighter infestations were common at other locations. Outbreaks have been attributed to the reduction of predators and parasites caused by spray drift; however, this has not been proved.

Trend: Unknown.

Control: None needed in 1963.

BARK BEETLES

MOUNTAIN PINE BEETLE (Dendroctonus monticolae Hopk.)

Hosts this year: Western white pine, lodgepole pine, and ponderosa pine.

Current conditions: Western white pine - The majority of damage caused by this beetle occurred on the Gifford Pinchot, Wenatchee, and Snoqualmie National Forests and Olympic National Park in Washington, and on the Mt. Hood, Willamette, and Umpqua National Forests in Oregon.

Lodgepole pine - Outbreaks decreased slightly in Oregon and increased slightly in Washington. The largest and most severe losses occurred on the Winema, Fremont, and Deschutes National Forests and

in Crater Lake National Park in Oregon, and on the Colville National Forest in Washington.

Ponderosa pine - Attacks in stagnated pole-size stands decreased considerably on Oregon forests and remained static on Washington forests. The most extensive losses in Oregon occurred on the Fremont and Rogue River National Forests. In Washington, the majority of the losses occurred on the Yakima Indian Reservation and on the Umatilla National Forest.

Trend: The trend is upward in western white pine and lodgepole pine stands in both States. In stagnated ponderosa pine stands the general trend is downward, with local exceptions.

Control: Control of this beetle in western white pine stands is considered impractical because of the prevalence of blister rust. Maintenance control is planned in lodgepole pine stands in Crater Lake National Park, Oregon. Thinning dense ponderosa pine pole-size stands should improve tree vigor and reduce future beetle-caused losses.

WESTERN PINE BEETLE (Dendroctonus brevicomis Lec.)

Host this year: Ponderosa pine.

Current conditions: Losses caused by this beetle continued to increase in central and southern Oregon, particularly on the Ochoco, Fremont, Malheur, and Deschutes National Forests. Outbreaks were of lighter intensity and were less extensive in Washington. Here the most extensive losses occurred on the Yakima Indian Reservation and on the Gifford Pinchot National Forest.

Trend: Strongly upward in Oregon; decreasing in Washington.

Control: Control of the outbreak on the Fremont National Forest began in 1961 with the removal of currently infested trees. A more extensive salvage program is underway on the critical areas this year. Much of the distressed timber on the Ochoco National Forest is now being cut or will be sold soon. Increased sanitation-salvage programs are needed in all overmature pine stands on most forests to reduce beetle populations.

DOUGLAS-FIR BEETLE (Dendroctonus pseudotsugae Hopk.)

Host this year: Douglas-fir.

Current conditions: Outbreaks declined in both States. The largest remaining infestations in Washington are on the Okanogan and Colville National Forests and on the Colville Indian Reservation.

In Oregon epidemic outbreaks continued on the Wallowa-Whitman and Umatilla National Forests.

Trend: Downward in Washington; varying with locality in Oregon. Extremely severe winds in October, 1962 have resulted in considerable windthrow in which the beetle could breed in 1963. Broods from the blowdown could cause extensive mortality in 1964.

Control: None needed in 1963. Salvage of currently infested trees is recommended to reduce beetle populations and save timber values.

FIR ENGRAVER (Scolytus ventralis Lec.)

Hosts this year: Lowland white fir, subalpine fir, and white fir.

Current conditions: The area infested by the fir engraver doubled this year. The largest increases occurred in Oregon on the Umatilla, Fremont, Wallowa-Whitman, and Ochoco National Forests. In Washington, outbreaks increased on the Snoqualmie and Umatilla National Forests. Most of the losses are relatively unimportant because the damage is in low-value stands. On some areas, Christmas tree crops have been destroyed.

Trend: Undetermined.

Control: None needed because infestations build up during drought periods, then subside quickly when moisture conditions return to normal.

OREGON PINE IPS (Ips oregonis (Eichh.))

Host this year: Ponderosa pine.

Current conditions: Infestations in young ponderosa pine stands increased in Oregon and decreased considerably in Washington. The largest and most severe losses occurred in drier sites on the Wallowa-Whitman and Malheur National Forests in Oregon, and on the Umatilla National Forest in Washington. Most of the tree mortality occurred last fall and early this spring.

Trend: Undetermined, probably downward.

Control: None needed because populations build up and subside rapidly. Good management practices will preclude the need for direct control measures.

ENGELMANN SPRUCE BEETLE (Dendroctonus engelmannii Hopk.)

Host this year: Engelmann spruce.

Current conditions: Losses caused by this beetle remained well below the critical level. In Oregon, losses were centered on the Umatilla, Willamette, and Wallowa-Whitman National Forests. The majority of damage in Washington occurred on the Umatilla National Forest.

Trend: Static to slightly upward in both States.

Control: None needed. In accessible stands infested trees should be salvaged to reduce beetle populations.

DOUGLAS-FIR ENGRAVER (Scolytus unispinosus Lec.)

Host this year: Douglas-fir.

Current conditions: A few scattered outbreaks occurred in drier sites on the Colville and Kaniksu National Forests in Washington, and on the Mt. Hood National Forest in Oregon. Losses were not serious.

Trend: Downward.

Control: None needed. Populations build up during dry years and subside quickly when growing conditions improve.

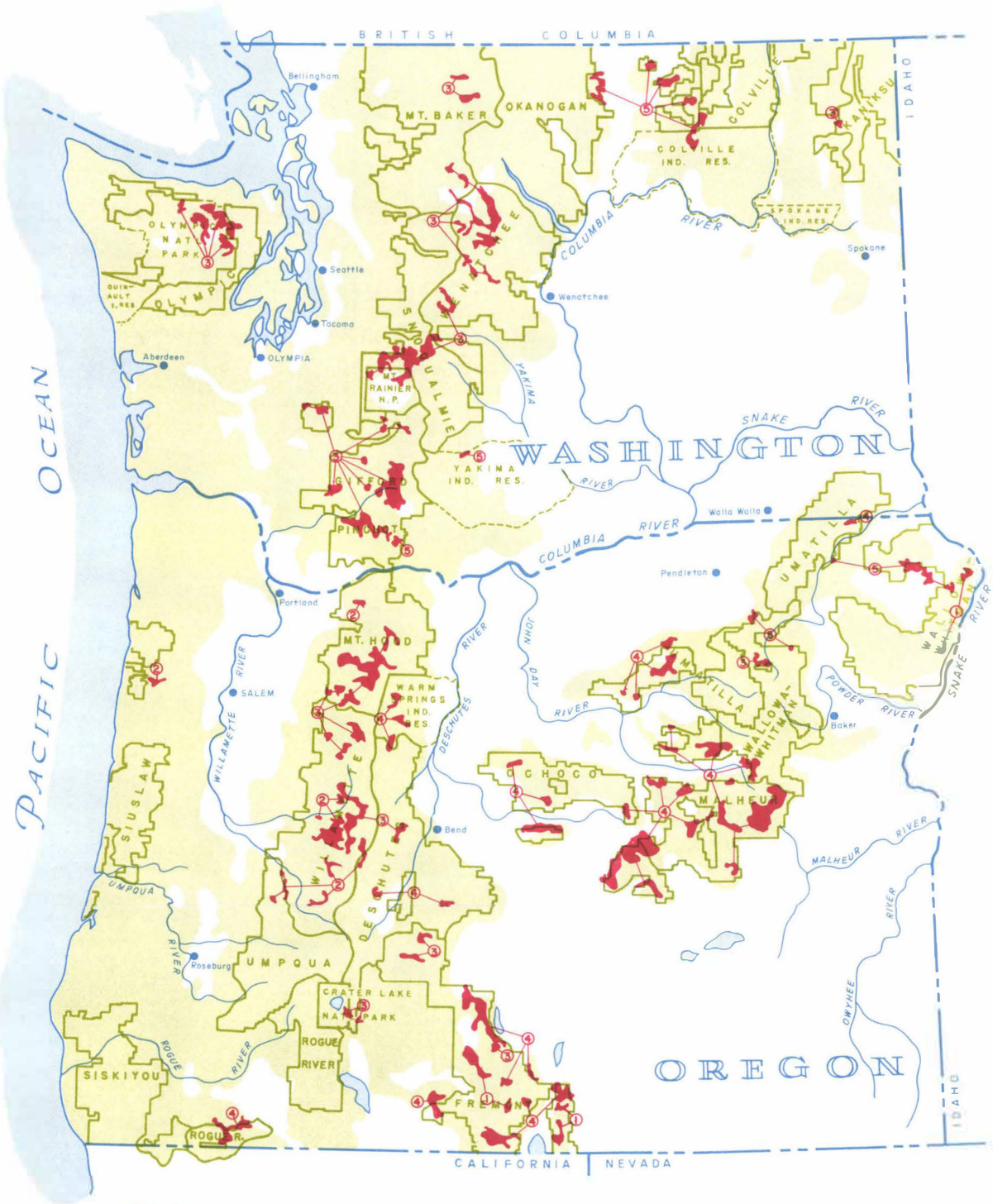
SILVER FIR BEETLES (Psuedohylesinus spp.)

Host this year: Pacific silver fir.

Current conditions: Losses this year were very light. One small infestation occurred on the Siuslaw National Forest in Oregon.

Trend: Static.

Control: No control needed in 1963.



U. S. FOREST SERVICE
PORTLAND, OREGON

SCALE IN MILES:

25 0 25 50 75 100

LEGEND:

- Forested Areas
- National Forest Boundaries
- Reservation and Park Boundaries

MAJOR FOREST INSECT OUTBREAKS

1962

① Spruce budworm

② Balsam woolly aphid

③ Mountain pine beetle

④ Western pine beetle

⑤ Douglas-fir beetle